

## WHAT IS CLAIMED IS:

1. A method for virtualizing external data as virtual native data, the external data being from a source that is external to a host operating environment, and the virtual native data being native to the host operating environment, the method comprising:

determining an external data set to be virtualized as a plurality of virtual native documents, the plurality of virtual native documents being native to the host operating environment;

determining mapping data to associate each of a first set of data groups from the external data set with fields of the plurality of virtual native documents;

utilizing the mapping data, determining wrapping data associated with each of a second set of data groups from the external data set, the wrapping data being for specifying characteristics of external data from the external data set as the fields of the plurality of virtual native documents; and

utilizing the wrapping data, allowing use of the external data through the host operating environment.

2. The method of claim 1, wherein determining an external data set comprises determining an external data table.

3. The method of claim 2, wherein determining mapping data to associate each of a first set of data groups comprises determining mapping data to associate each of a first set of columns.

4. The method of claim 3, wherein determining wrapping data associated with each of a second set of data groups comprises determining wrapping data associated with each of a second set of rows.

5

5. A method for virtualizing external data as virtual native data, the external data being from a source that is external to a host operating environment, and the virtual native data being native to the host operating environment, the method comprising:

determining an external data table having a plurality of rows to be virtualized as a plurality of virtual native documents, the plurality of virtual native documents being native to the host operating environment;

determining mapping data to associate columns from the external data table with fields of the plurality of virtual native documents;

utilizing the mapping data, determining wrapping data associated with each of a plurality of rows from the external data table, the wrapping data being for specifying characteristics of each row of external data from the external data table as a virtual native document of the plurality of virtual native documents; and

utilizing the wrapping data, allowing use of the external data through the host operating environment.

20

6. The method of claim 5, wherein determining wrapping data comprises determining a plurality of columns to be appended to the external data table for specifying characteristics of the plurality of rows as the plurality of virtual native documents.

7. The method of claim 5, wherein determining wrapping data comprises determining wrapping data to associate each of a first plurality of columns from the external data table with each of a plurality of fields of the plurality of virtual native documents.

5

8. The method of claim 5, wherein each of the plurality of documents is of a same type.

9. The method of claim 5, wherein allowing use of the external data through the host operating environment does not require nonvolatile storage of the wrapping data as native data to the host operating environment.

10. The method of claim 5, wherein allowing use of the external data comprises allowing use of the external data as a first class participant in the host operating environment.

11. The method of claim 5, comprising, if a set of external data from the external data table is changed through the host operating environment:

appropriately updating the set of external data in the external data table; and

appropriately updating a first set of wrapping data associated with the updated set of

20 external data, if any updating of the first set of wrapping data is appropriate.

12. The method of claim 5, comprising, if a set of external data from the external data table is updated externally from the host operating environment:

appropriately updating a set of wrapping data associated with the updated set of external data, if any updating of the set of wrapping data is appropriate.

13. The method of claim 5, comprising, if a set of external data associated with the external data table is added through the host operating environment, adding the set of external data to the external data table.

14. The method of claim 5, comprising, if a set of external data associated with the external data table is added externally from the host operating environment:

if appropriate, determining wrapping data associated with the set of external data;

and

storing the wrapping data in the external data table.

15. A computer usable medium storing program code which, when executed on a computerized device, causes the computerized device to execute a method for virtualizing external data as virtual native data, the external data being from a source that is external to a host operating environment, and the virtual native data being native to the host operating environment, the method comprising:

determining an external data set to be virtualized as a plurality of virtual native

documents, the plurality of virtual native documents being native to the host operating environment;

determining mapping data to associate each of a first set of data groups from the external data set with a field of the plurality of virtual native documents;

utilizing the mapping data, determining wrapping data associated with each of a second set of data groups from the external data set, the wrapping data being for specifying characteristics of external data from the external data set as the fields of the plurality of virtual native documents; and

5                   utilizing the wrapping data, allowing use of the external data through the host operating environment.

16.     A computer usable medium storing program code which, when executed on a computerized device, causes the computerized device to execute a method for virtualizing external data as virtual native data, the external data being from a source that is external to a host operating environment, and the virtual native data being native to the host operating environment, the method comprising:

                  determining an external data table to be virtualized as a plurality of virtual native documents, the plurality of virtual native documents being native to the host operating environment;

                  determining mapping data to associate columns from the external data table with fields of the plurality of virtual native documents;

                  utilizing the mapping data, determining wrapping data associated with rows from the external data table, the wrapping data being for specifying characteristics of external data from the external data table as the fields of the plurality of virtual native documents; and

                  utilizing the wrapping data, allowing use of the external data through the host operating environment.